NSPS SEMI-ANNUAL REPORT (07/01/09-12/31/09)
Bridgeton Landfill, LLC
Bridgeton, Missouri

Installation ID Number 189-0312
Aquaterra Project Number 3788.10
January 2010

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1.0 INTRODUCTION

In accordance with 10 CSR 10-5.490(7)(H) each landfill that has a calculated non-methane organic compound (NMOC) emission rate equal to or greater than 25 Megagrams per year and 1.0 million Megagrams must submit a Semi-annual report summarizing the gas system operations to verify compliance with 10 CSR 10-5.490, Municipal Solid Waste Landfills. In addition to the local requirements, the municipal solid waste landfill's NMOC emissions exceed 50 Megagrams per year; therefore, the installation is subject to the requirements set forth in 40 CFR 60 Subpart WWW, New Source Performance Standards for Municipal Solid Waste Landfills (NSPS). This report serves as the semi-annual NSPS Report for the reporting period July 1, 2009 through December 31, 2009.

Documented in this report are exceedances of monitored parameters under 10 CSR 10-5.490 and 40 CFR 60 Subpart WWW. Information regarding operation of the landfill gas (LFG) extraction system was obtained from Bridgeton Landfill. The information regarding landfill surface monitoring was obtained from Herst and Associates. The wellfield monitoring data and the control device monitoring data was obtained from Monitoring Control and Compliance, Inc. (MCC) and Bridgeton Landfill.

Landfill gas at the Bridgeton Landfill is currently being collected from 85 gas extraction wells and associated header piping to a 3,500 standard cubic feet per minute (SCFM) enclosed flare for control. During this reporting period, 30 wells were replaced and three additional wells were added. In addition to the above control system the facility currently has five leachate extraction wells within waste to control odor. One leachate extraction well was replaced and another was decommissioned (the replacement well is scheduled to come on-line the first quarter of 2010) during this reporting period, The site also contains one perimeter trench and 54 perimeter gas extraction wells to address off-site migration.

2.0 COMPLIANCE REPORTING

The following discusses each of the monitored parameters to be addressed in the semi-annual report to comply with 10 CSR 10-5.490, Municipal Solid Waste Landfills.

2.1 Exceedance of Monitoring of the Collection System

Regulation 10 CSR 10-5.490(7)(H)1 requires reporting of the value and length of time for exceedance of applicable parameters monitored under subsections (6)(A), (B), (C), and (D).

Appendix A contains results of wellfield monitoring conducted during the reporting period including the value and length of time for each exceedance of an applicable parameter. Per the site's standard operating procedure, immediate action is taken in instances that exceedances are monitored. The corrective action required within five days is therefore, taken the same day the exceedance is monitored. Subsequent monitoring occurs within 15 days of a monitored exceedance if same day corrective action did not result in immediate compliance to ensure compliance with applicable parameters has been obtained within the allowed timeframe.

Bridgeton Landfill received approval from the St. Louis County Department of Health to operate a number of wells with negative pressure only, in a letter dated May 29, 2007. The wells which were excluded from temperature and oxygen concentration limits include the perimeter trench wells (BrigIT-1 through BrigIT-6 and BrigT-56) as well as the perimeter gas extraction wells (BRIPEW01-60). However, it was determined that the perimeter well BRIPEW60 is located in waste; therefore, that well must comply with temperature, pressure and oxygen concentration limits. Additionally, the perimeter wells BRIPEW54-59 have been abandoned and disconnected from the gas system and therefore are no longer active wells.

2.1.1 Gauge Pressure

Regulation 10 CSR 10-5.490(5)(A)3 requires the operation of the collection system with negative pressure at each wellhead. Any instance where non-negative pressure is monitored, the location and duration of the exceedance shall be documented.

Based on the wellfield data enclosed in Appendix A, instances of positive pressure were recorded during wellfield balancing. Action was taken within 5 days to correct the exceedances; the wells were re-monitored within 15 calendar days to verify compliance. Based on the wellfield monitoring data in Appendix A, other than the instances described below, no exceedance of pressure above the regulatory level was recorded during the reporting period outside the allotted time frames.

Gas extraction well BRGEW33R exhibited positive pressure during monitoring on September 11, 2009, after being initially brought online. Compliant pressure was not monitored until 18 days later. Re-monitoring in excess of 15 days following an initial exceedance such as in this case is not typical due to the design of the electronic database that is used to track well field reporting and alert monitoring personnel to the need for re-monitoring within a particular timeframe.

During the July 16, 2009 monitoring event, well BRIGEW59 exhibited positive pressure. Negative pressure was not monitored until August 18, 2009, 33 days later. Re-monitoring of the system occurred on July 29, 2009, within 15 days of the initial exceedance, and positive pressure was again monitored. However, the wellfield was expanded shortly thereafter, well within the 120-day allotted timeframe from the initial exceedance, and BRIGEW59 was replaced with BRGEW59R at the end of September.

Well BRGEW59R exhibited positive pressure during the September 30, 2009 monitoring event, after initially being brought online. Compliant pressure readings were monitored during the October 20, 2009 monitoring event, 20 days later. The well again exhibited positive pressure during the November 12, 2009 monitoring event. Compliant pressure readings were monitored during the December 7, 2009 monitoring event, 25 days later. Although the well was not compliant within 15 days, this is due to the development of the new replacement well. The well has shown compliance during the most recent monitoring events. In accordance with 10 CSR 10-5.490(5)(A)3., it is not proposed to expand the gas collection system since instances of monitored positive pressure are occurring within 180 days of startup.

2.1.2 Temperature

Regulation 10 CSR 10-5.490(3)(B)2.B.(III)(b) requires the operation of each interior wellhead in the collection system with a landfill gas temperature less than 131°F. Any instance where a temperature is monitored equal to or in excess of 131°F, the location and duration of the exceedance shall be documented.

Bridgeton Landfill has additionally obtained approval for an alternative temperature request for specific gas extraction wells at the site. The St. Louis County Department of Health approved the alternative temperature request in a letter dated December 15, 2008. The approval allows operation of the following interior wellheads with a landfill gas temperature less than or equal to 140°F: BRIEW12A, BRIGEW13, BRIGEW28, BRIGEW34, BRIGEW56, BRIGEW67, and BRIEW19A. Well BRIGEW28 was replaced this reporting period with well BRGEW28R; the alternative temperature parameter does not apply to the new well. As previously discussed, the perimeter trench wells (BrigIT-1 through BrigIT-6 and BrigT-56) and the perimeter gas extraction wells (BRIPEW01–53) have no temperature limitation upon them.

Instances of temperature exceedance were encountered during wellfield monitoring. The vacuum was immediately adjusted in each instance and each well was re-monitored within a few moments, and again within 15 days of the initial exceedance. Based on the wellfield monitoring data in Appendix A, no exceedance of temperature above the regulatory level for

wells without an approved alternative temperature and no exceedance of temperature above the approved alternative temperature for the above-listed wells were recorded during the reporting period outside the allotted time frames.

2.1.3 Oxygen or Nitrogen Concentration

Regulation 10 CSR 10-5.490(3)(B)2.B.(III)(b) requires the operation of each interior wellhead in the collection system with either a nitrogen level less than 20 percent or an oxygen level less than five percent. Any instance where the nitrogen level is monitored and equals or exceeds 20 percent or the oxygen level equals or exceeds five percent, the location and duration of the exceedance shall be documented.

As previously discussed, the perimeter trench wells (BrigIT-1 through BrigIT-6 and BrigT-56) and the perimeter gas extraction wells (BRIPEW01–53) have no oxygen concentration limitation upon them.

Based on the wellfield data enclosed in Appendix A, instances of elevated oxygen levels were recorded during wellfield balancing. Action was taken within 5 days to correct the exceedances; the wells were re-monitored within 15 calendar days to verify compliance. Based on the wellfield monitoring data in Appendix A, other than the instances described below, no exceedance of oxygen concentration above the regulatory level was recorded during the reporting period outside the allotted time frames.

During the August 17, 2009 monitoring event, well BRIGEW18 exhibited excess oxygen concentration. Compliant oxygen concentration was not monitored until September 11, 2009, 25 days later. The wellfield was expanded shortly thereafter, well within the 120-day allotted timeframe from the initial exceedance, and BRIGEW18 was replaced with BRGEW18R at the end of September.

Well BRIGEW63 exhibited excess oxygen concentration during the July 1, 2009 monitoring event. High oxygen concentrations continued to be monitored until the October 6, 2009 monitoring event. During that monitoring event, compliant oxygen concentration was monitored; however, non-negative pressure was monitored at the well. During the next monitoring event, on October 20, 2009, excess oxygen levels were again recorded. Compliant oxygen concentration was monitored during the October 28, 2009 monitoring event, at which time all monitored parameters were in compliance for the well. The wellfield expansion that took place at the end of September occurred within 120 days of the initial exceedance for the well and was developed, in part to rectify issues with BRIGEW63. And while the expansion did not immediately remedy the issues with this well, the well has been

monitored with only occasional instances of non-negative pressure since the October 28, 2009 monitoring event.

A similar situation existed for well BRIEW12A. Instances of excess oxygen concentration and non-negative pressure were monitored during the reporting period. The wellfield expansion that took place at the end of September occurred within 120 days of the initial exceedance for the well and was developed, in part to rectify issues with BRIEW12A. And while the expansion did not immediately remedy the issues with this well, the well has been monitored with compliant parameters since the second monitoring event of November on November 23, 2009.

Finally, leachate collection sump BRLCS-5A was monitored with excess oxygen concentration during the September 11, 2009 monitoring event. Compliant oxygen concentration was monitored during the subsequent monitoring event on September 28, 2009. The re-monitoring of the leachate collection sump did not occur within 15 days of the initial exceedance, as required, but 17 days later due to an error in scheduling. However, errors such as this are not typical due to the design of the electronic database that is used to track wellfield reporting and alert monitoring personnel to the need for re-monitoring within a particular timeframe.

2.1.4 Operations of Gas Collection System

Regulation 10 CSR 10-5.490(7)(H)4 states all periods when the collection system was not in operation in excess of five (5) days must be reported.

During the reporting period, portions of the gas collection system were disconnected from the remainder of the system. Repeated poor gas quality readings resulted in the shut down of three wells from the gas collection system during the previous reporting period; wells BRIEW12A, BRIGEW59 and BRIGEW63 were shut down on May 26, 2009. The landfill scheduled wellfield expansion within 120 days of the initial exceedance, or by September 23, 2009. The valve on gas extraction well BRIGEW63 was inadvertently re-opened during the monitoring event on June 3, 2009, following the shut down on May 26, 2009. The valve was again closed during the June 16, 2009 monitoring event.

Well BRIGEW59 was decommissioned and the replacement well, BRGEW59R, was brought online in September. The well remained disconnected from the system until it was decommissioned. However, the wells BRIEW12A and BRIGEW63 were not replaced. The extensive gas collection system expansion that occurred in the autumn was expected to remedy the gas quality issues at these two wells. Well BRIEW12A's valve remained fully closed from May 26, 2009 through October 5, 2009, following the system expansion. The

valve remained closed until the monitoring event of December 7, 2009, at which time compliant temperature readings were obtained. Compliant parameter readings continue to be monitored as of submission of this report.

Well BRIGEW63 has been reconnected to the gas system during each monitoring event following expansion of the gas collection system. However, due to poor quality gas readings during each of these monitoring events, the well has subsequently been disconnected from the system at the end of each monitoring event.

2.1.5 Surface Emissions Monitoring

Regulation 10 CSR 10-5.490(7)(H)5 states the location of each exceedance of the 500 parts per million (ppm) methane concentration as provided in (4)(D) and the concentration recorded at each location for which an exceedance was recorded in the previous month must be reported.

In 2007 Bridgeton Landfill reverted to annual surface emissions monitoring due to the landfill closing February 28, 2005 and no surface emissions monitoring exceedances in 2006. Herst and Associates, Inc. completed annual surface monitoring during the previous reporting period on April 24, 2009. Details of that monitoring may be found in the previously submitted report.

2.1.6 Landfill Gas System Installation

Regulation 10 CSR 10-5.490(7)(H)6 states the date of installation and the location of each well or collection system expansion added must be reported.

During the reporting period July 1, 2009 through December 31, 2009, the Bridgeton Landfill made modifications to the existing gas collection system. As discussed in Section 1.0 of this report, Bridgeton Landfill replaced thirty of its existing wells during the reporting period and added three (3) new wells to the gas collection system. Construction activities during the months of August through October included the installation of the following gas extraction wells: BRGEW16R, BRGEW17R, BRGEW18R, BRGEW22R, BRGEW26R, BRGEW28R, BRGEW30R, BRGEW31R, BRGEW32R, BRGEW33R, BRGEW41R, BRGEW42R, BRGEW43R, BRGEW45R, BRGEW46R, BRGEW47R, BRGEW56R, BRGEW57R, BRGEW59R, BRGEW60R, BRGEW61R, BRGEW62R, BRGEW69R, BRGEW70R, BRGEW72R, BRGEW73R, BRGEW76R, BRGEW78R, BRGEW79R, BRGEW82R, BRIGEW83, BRIGEW84, BRIGEW85, and associated header and lateral piping. Appendix C contains gas system layout and gas extraction well construction diagrams.

2.2 Exceedance of Monitoring of the Control Device

2.2.1 Record of Operation

Regulation 10 CSR 10-5.490(7)(H)2 states the description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow must be reported.

There were no periods between July 1, 2009 and December 31, 2009, when the LFG stream was bypassed from a control device. The gas collection system at the Bridgeton Landfill does not have a bypass line and the blower/flare system is designed to shutdown the entire system when the flare is inoperable.

2.2.2 Continual Operation of Control Device

Regulation 10 CSR 10-5.490(7)(H)3 states the description and duration of all periods when the control device was not operating for a period exceeding one (1) hour and length of time the control device was not operating must be reported.

Based on electronic records provided by Bridgeton Landfill the blower/flare system recorded eleven (11) events where the control device was inoperable for periods in excess of one hour. Appendix B contains the date, duration and description for the periods the control device was inoperable in excess of one hour.

2.2.3 Average Combustion Temperature

Regulation 40 CFR 60.758(c)(1)(i) states for enclosed combustors all 3-hour periods of operation during which the average combustion temperature was more than 82°F below the average combustion temperature during the most recent performance test must be reported.

The most recent performance test was conducted on February 16 and 17, 2005. For the 3,500 SCFM enclosed flare the following compliance temperature was recorded.

Table 3: Compliance Temperature for Enclosed Flare

Flare	Thermocouple	Compliance Temperature (°F)
West Flare	TE 202B	1488

Based on the electronic records provided by Bridgeton Landfill there were no events documented where the 3-hour average combustion temperature was below the compliance temperature in Table 3 for the west flare.

APPENDIX A

WELLFIELD MONITORING DATA